



10/002282

C97C

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Transmittal of Certificate of Correction

Docket KOL-10-5563

In re Patent of: Easterday et al

Patent No. US 6,746,546 B2

Issued: June 8, 2004

For: LOW TEMPERATURE NITRIDING SALT AND METHOD OF USE

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Certificate  
DEC 15 2004  
of Correction

Attention: Decision and Certificate of Correction  
Branch of the Patent Issue Division

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT  
FOR PATENT OFFICE MISTAKE

Sir:

Previously on July 20, 2004 a Certificate of Correction was filed setting forth the errors for which correction is requested. However, when the Certificate of Correction was issued on November 23, 2004, due to a Patent Office error, the correction was not made. A copy of the Certificate of Correction is attached. Therefore a second request for correction is submitted herewith.

It is requested that a Certificate of Correction be issued with respect to the foregoing patent. In this connection, Form PTO-1050 is attached hereto, in duplicate, and sets forth the errors for which correction is requested.

Since the errors are on the part of the Patent Office, it is believed that there is no charge for this Certificate of Correction. However, Deposit Account No. 500645 is to be charged in the event additional fees are required. The errors relate to the insertion of the numeral "5" in the body of a sentence in the claims, which numeral was actually a line number appearing in the original specification.

Please send the Certificate of Correction to the undersigned.

Respectfully submitted,

<b>CERTIFICATE OF MAILING UNDER 37 CFR 1.8</b>	
I hereby certify that I am depositing the enclosed or attached correspondence with the United States Postal Service as First Class mail in an envelope addressed to Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450	
on <u>December 8, 2004</u>	
<u>Alicia Y. Sterba</u>	
Name of person mailing paper	
<u>Alicia Y. Sterba</u>	<u>12/8/2004</u>
Signature	Date

By:

Date: 12/18/2004

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DEC 29 2004

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,746,546 B2  
DATED : June 8, 2004  
INVENTOR(S) : Easterday et al.

Page 1 of 7

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Please replace the specification with the new attached specification including Figure 1.

Please replace Formal Drawings 1-5 with the attached drawings.



Signed and Sealed this  
Twenty-third Day of November, 2004

JON W. DUDAS  
*Director of the United States Patent and Trademark Office*

(Also Form PTO-1050)

## UNITED STATES PATENT AND TRADEMARK OFFICE

## CERTIFICATE OF CORRECTION

PATENT NO US 6,746,546 B2

DATED June 8, 2004

INVENTOR(S) James R. Easterday and John F. Pilznienski

It is certified that errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the claims:

Column 7, line 13, after "the", first occurrence, delete the numeral "5".

## MAILING ADDRESS OF SENDER:

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PATENT NO: US 6,746,546 B2

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# UNITED STATES PATENT AND TRADEMARK OFFICE

## CERTIFICATE OF CORRECTION

**PATENT NO** US 6,746,546 B2

**DATED** June 8, 2004

**INVENTOR(S)** James R. Easterday and John F. Pilznienski

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DATED : June 8, 2004  
INVENTOR(S) : Easterday et al.

Page 1 of 7

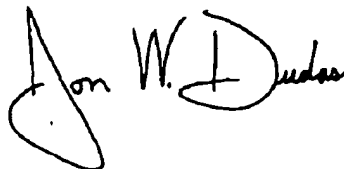
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Please replace the specification with the new attached specification including Figure 1.

Please replace Formal Drawings 1-5 with the attached drawings.

Signed and Sealed this

Twenty-third Day of November, 2004

A handwritten signature in black ink, appearing to read "Jon W. Dudas". The signature is stylized, with a large, looped initial "J" and a distinct "D" at the end.

JON W. DUDAS  
*Director of the United States Patent and Trademark Office*

(12) **United States Patent**  
Easterday et al.

(10) Patent No.: **US 6,746,546 B2**  
(45) Date of Patent: **Jun. 8, 2004**

(54) **LOW TEMPERATURE NITRIDING SALT  
AND METHOD OF USE**

GB 1105031 3/1965 ..... C23C/9/14

#### OTHER PUBLICATIONS

(75) Inventors: James R. Easterday, Bloomfield Hills,  
MI (US); John F. Pilzinski,  
Dearborn Heights, MI (US)

"Plasma Nitriding of Stainless Steels at Low Temperatures",  
B. Larisch et al, Technical University Freiberg, pp. 221-228.

(73) Assignee: Kotene Corporation, Detroit, MI (US)

"The Response of Austenitic Stainless Steels to Low-tem-  
perature Plasma Nitriding", Y. Sun et al, Heat Treatment of  
Metals, 1999, pp. 9-16.

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(h) by 135 days.

"Influence of the Steel Composition and Treating Parameters  
on the Properties of Nitrocarburized Components", G. Wab  
1989.

\* cited by examiner

(21) Appl. No.: 10/002,282

(22) Filed: Nov. 2, 2001

Primary Examiner—Andrew L. Oltmans

(65) Prior Publication Data

(74) Attorney, Agent, or Firm—William N. Hogg

US 2003/0084963 A1 May 8, 2003

(57) **ABSTRACT**

(51) Int. Cl.<sup>7</sup> ..... C23C 8/26

(52) U.S. Cl. .... 148/228; 148/229; 148/240;  
148/242; 148/274

(58) Field of Search ..... 148/228, 229,  
148/240, 242, 274; 252/390

(56) References Cited

#### U.S. PATENT DOCUMENTS

3,303,063 A	2/1967	Pietryka	148/15.5
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#### FOREIGN PATENT DOCUMENTS

EP 1055739 A2 5/2000 ..... C21D/9/50

A composition for nitrocarburizing stainless steel parts and a method for producing a nitride or hard case on such parts using the composition, are provided. The composition includes alkali metal cyanate and alkali metal carbonate, wherein the cyanate ion is present in a weight percentage of greater than 45% and less than 55.2%. The composition is fused and maintained between about 750° F. and about 950° F. depending upon the type of stainless steel to be treated. The workpiece is immersed in the fused bath and left in until a satisfactory compound layer or case is formed. With austenitic stainless steel, the piece is immersed from about four hours to about six hours at temperatures between about 750° F. and about 950° F., preferably between 750° F. and 850° F. to maintain corrosion resistance.

With 400 series stainless steel, increased corrosion resistance is achieved by immersion for between four and six hours at 950° F.

2 Claims, 5 Drawing Sheets

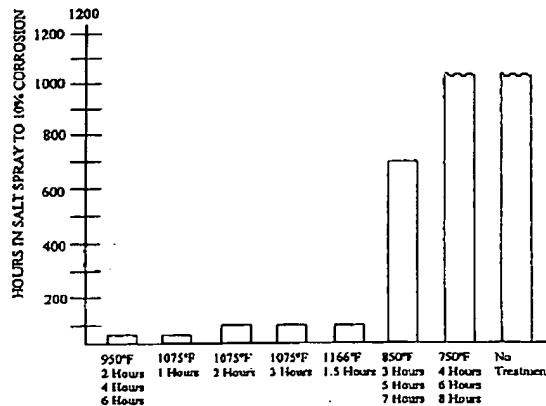


Fig 1

U.S. Patent

Jun. 8, 2004

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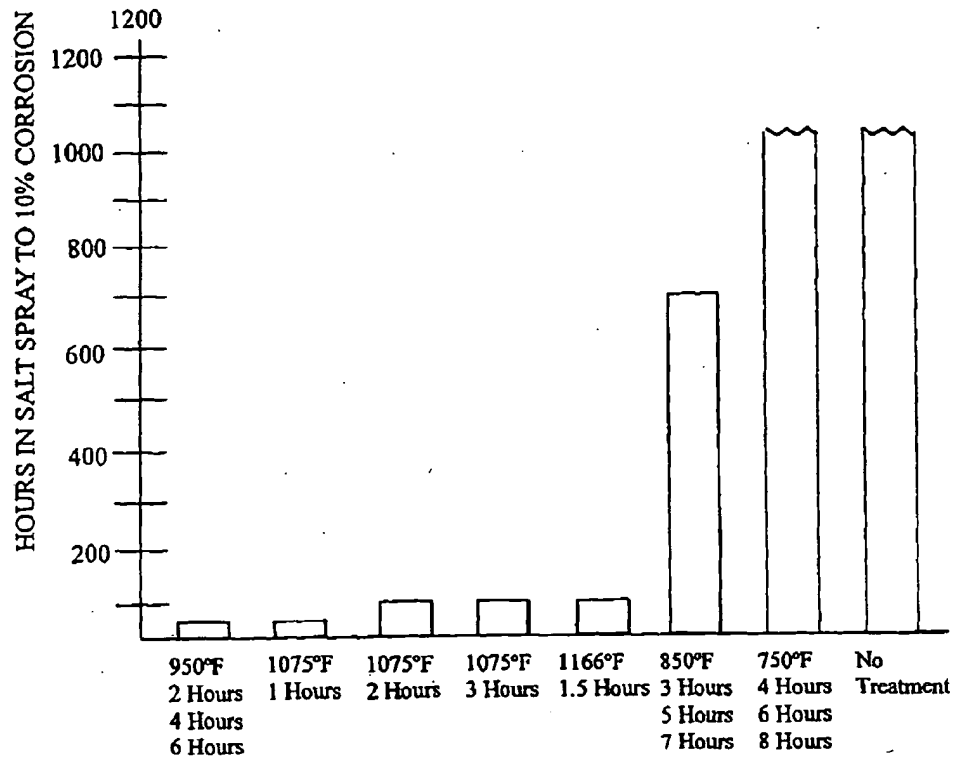


Fig 1

U.S. Patent

Jun. 8, 2004

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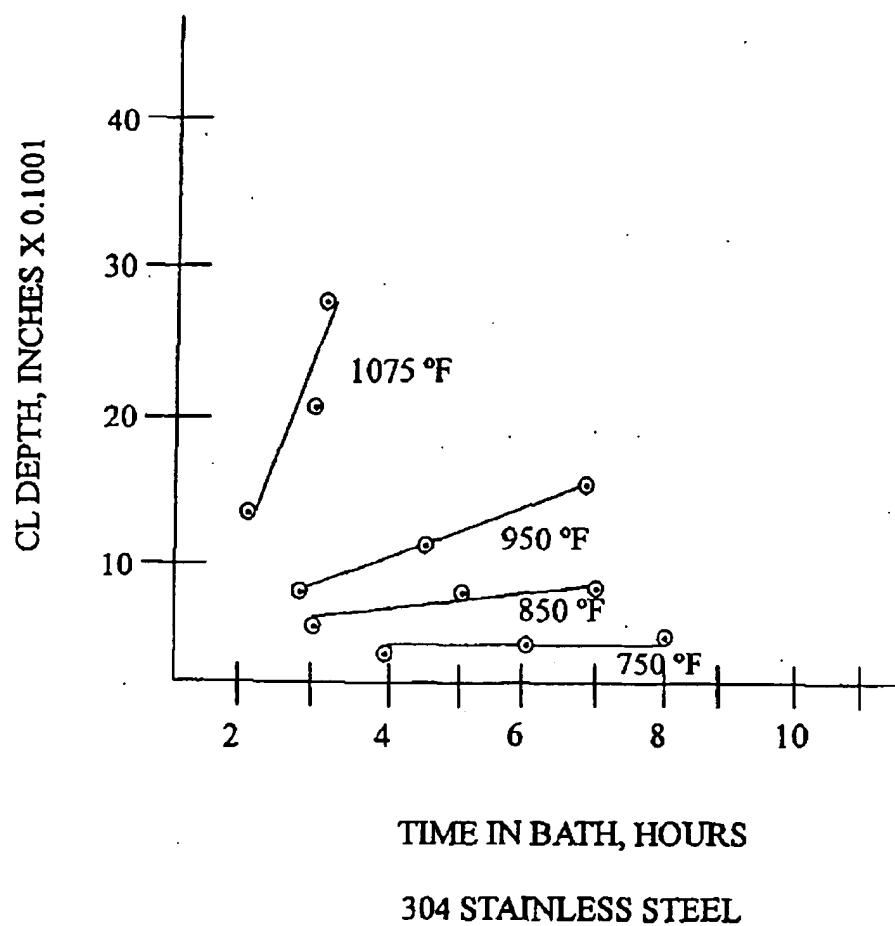


Fig 2

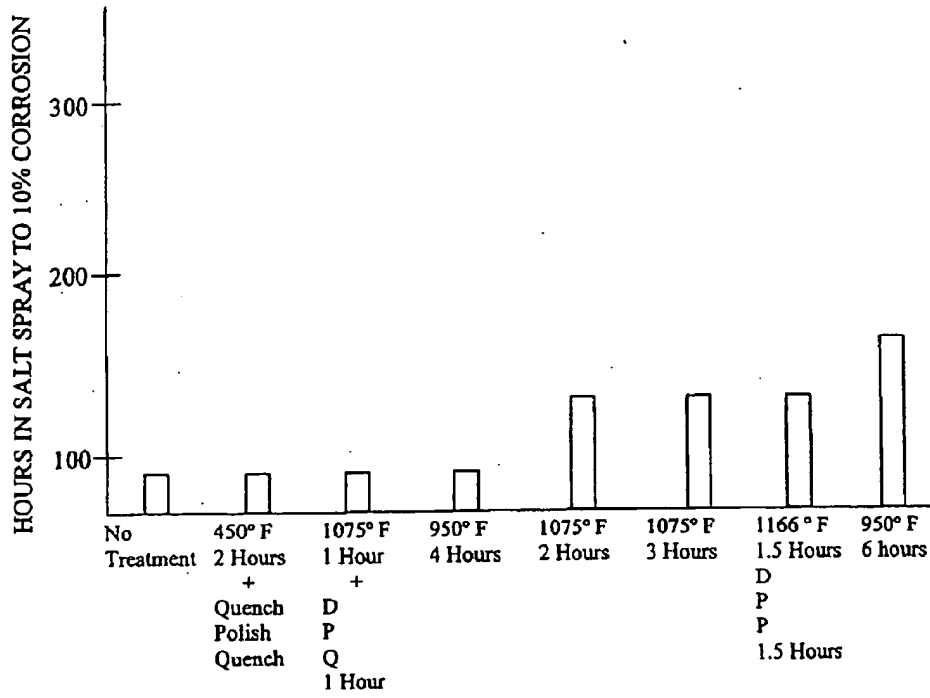


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Jun. 8, 2004

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4/6 STAINLESS STEEL

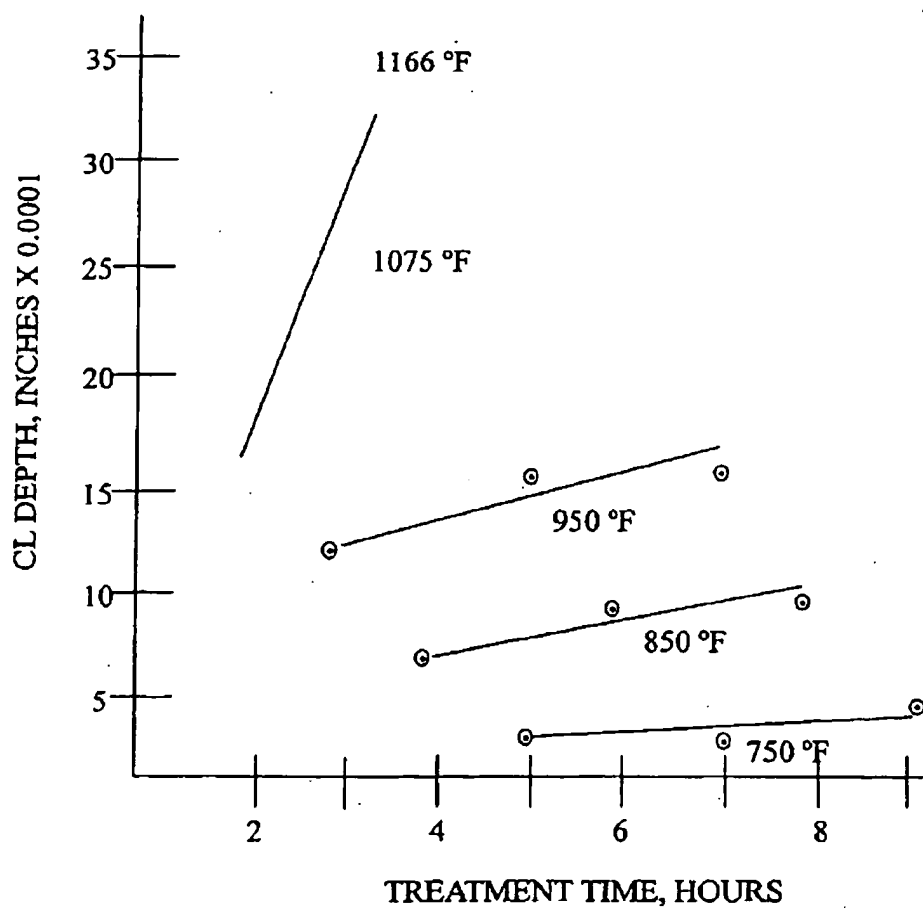
Fig 3

U.S. Patent

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DIFFUSION 416 STAINLESS STEEL

Fig 4

U.S. Patent

Jun. 8, 2004

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6,746,546 B2

INFLUENCE OF SBM TEMPERATURE ON  
CORE HARDNESS OF PRE HARDENED  
AND TEMPERED 41655

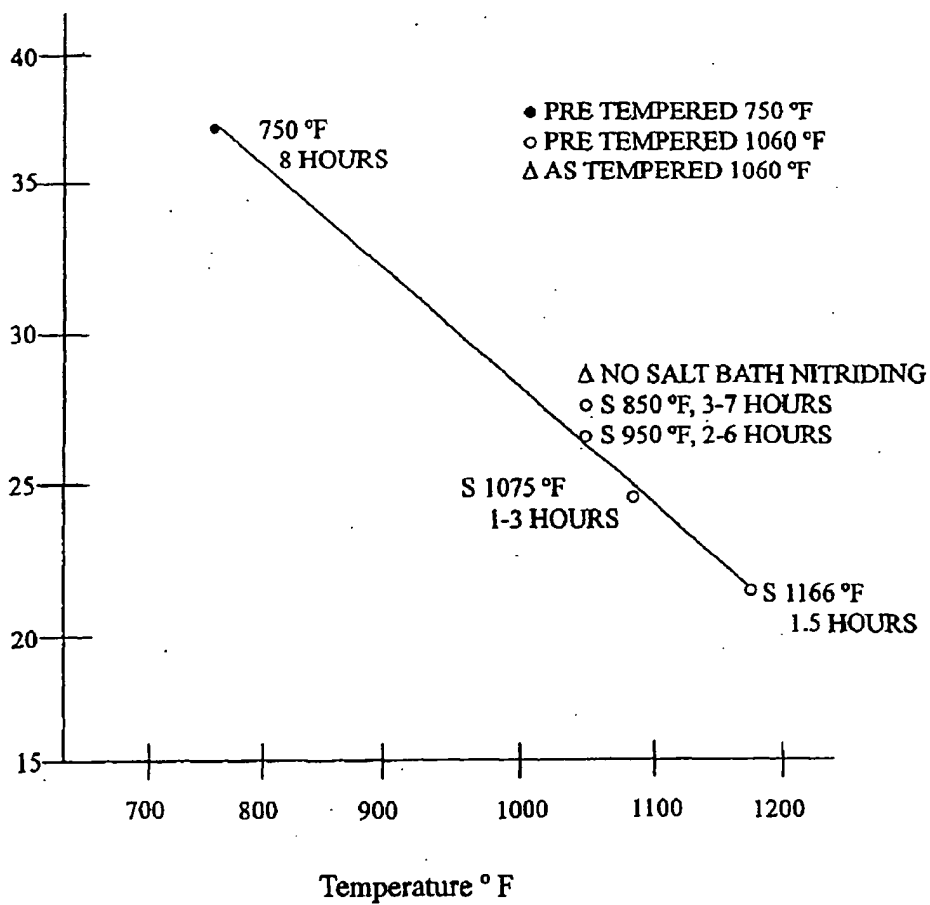


Fig 5

TO: MW On (note date): 12/29/04 Pat. No. 6 146 546 B2  
Team Leaders Initials  
INFO SUPPLIED BY: TPS 10/1002-282  
OAC/LDRC Initials

**SECOND REQUEST (DIFFERENT CORRECTIONS), SUPERSEDE OR RECONSIDERATION**  
(OAC OR LDRC, USE A RED PEN FOR COMPLETING INFO, ON THIS COVER SHEET) (11/2002 cbn)

Team Leader, an Office Automation Clerk may assist you by supplying data from CofC Database (Current & History), PALM, and copies from Intranet, to determine type of request (second request, supersede, and/or reconsideration) and to determine if there were any errors made in decisions and/or publishing are attributable. Team Leader, check appropriate boxes below, key record (if necessary) and forward to JCWS, to order file and assign file to an LIE, to EXPEDITE.

Team Leader, DO NOT ORDER FILE.

MRD (for request attached to this cover sheet): 12/10/2004 (Team Leader have LDRC, stamp same MRD on 1050s.)

File Charged to (in PALM): \_\_\_\_\_ Date Charged to Loc.: / /

Information re most recent record in CofC database (Check Current & History)

MRD: 07 / 22 / 2004 Examiner (LIE's initials): RTJ

Date Assigned: 10 / 31 / 2004 Turned In: 10 / 31 / 2004

CofC Issued: 11/23/2004 CofC Denied: / / Updated: Y / N Date: / /

Patent number listed on C of C listing in OG ((circle one) Y / N

CofC Issued for this record is attached to patent on Internet (circle one) Y / N

New/different correction(s) requested. Check Intranet or with RTIS. (circle one) Y / N

☐ Duplicate (same heading and corrections published/issued CofC on Intranet. (circle one) Y / N

☐ Substitute or corrected request. Locate the original request (check with JCWS and RTIS).

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CofCs keyed, same week, determine and note in to upper right hand corner if "P", "R", or "RTC".

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Keying Error

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Comments/ Instructions: \_\_\_\_\_

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(Revised 12/15/2003 cbn) #4